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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,838	10/29/2001	Yingjian Wang		7868

7590  
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01/27/2005

EXAMINER

LAM, ANN Y

ART UNIT PAPER NUMBER

1641

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,838

Applicant(s)

WANG, YINGJIAN

Examiner

Ann Y. Lam

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1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 25-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/29/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of claims 20-24 (group V) in the reply filed on November 2, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: antecedent basis in the specification is needed for the ranges 1 to 1,000,000 and 100 to 10,000 as claimed in claims 23 and 24 respectively.

### ***Claim Objections***

Claims 20-24 are objected to because of the following informalities: in claim 20, line 2, "know" should be --known--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20, line 1, recites "A method of biological assays" in the preamble.

However, the body of the claims recite limitations only regarding to a method of making biological assays. Thus it is unclear as to whether Applicant is claiming a method of biological assays (i.e., a method of testing), or a method of making biological assays.

Claim 20 recites the limitation "the binding" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 is vague. The claim appears to be incomplete. An "and" should precede the last step of the method, otherwise, there appears to be additional steps missing.

Claim 21 recites the limitation "said support" in line 1. There is insufficient antecedent basis for this limitation in the claim. (It appears that Applicant intended to mean "said solid support", however this should be clarified.)

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lizardi et al., 6,316,229.

Although it is unclear as to what Applicant is claiming (see rejection above under 112, 2<sup>nd</sup>), for purposes of examination, Examiner will interpret the claims to be claiming a method of making biological assays.) Also, since it appears that Applicant intended “know” in claim 20, line 2, to be –known--, Examiner will interpret “know” as if it were –known--.

As to claim 20, Lizardi et al. discloses a method of making biological assays (col. 33, lines 58-66) comprising the steps of immobilizing a plurality of ligands (i.e., antibodies, col. 33, line 59, and col. 34, line 14) on a solid support (i.e., solid-state substrates, col. 33, line 59), each said ligand at a separate known site (see col. 32, lines 39-46, disclosing an array or organized pattern of detectors); incubating said ligands on said solid support with a plurality of reagents (i.e., glutaraldehyde, col. 33, line 66) to allow the binding between said ligands and said reagents (col. 34, lines 14-20); covalently cross-linking said ligands and said reagents (i.e., the binding between the antibody and glutaraldehyde is a covalent bond.)

As to claim 22, said ligands are antibodies (col. 33, line 59 and col. 34, line 14.)

As to claim 23 and 24, the number of said ligands ranges from 1 to 1,000,000 or from 100 to 10,000, (col. 33, lines 43-50.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lizardi et al., 6,316,229, in view of Schwarz et al., 5,502,022.

Lizardi et al. discloses the invention substantially as claimed (see above with respect to claim 20.) Furthermore, Lizardi et al. discloses that the solid-state substrates can have any useful form including thin films or membranes (col. 32, lines 56-57.)

However, Lizardi et al. does not disclose that one side of said support is specifically at least 1 millimeter long.

Schwarz et al. however teaches this limitation. More specifically, Schwarz et al. teaches a solid support material for immobilization of ligands to capture materials (col. 4, lines 51-59.) Schwarz et al. further teaches that the solid support material may take the form of membranes or flat surface ranging in thickness from about 0.1 mm to 1 mm thick (col. 6, lines 9-14.)

It would have been obvious to form the Lizardi et al. film or membrane such that it has a thickness of 1 mm as taught by Schwarz because Schwarz et al. teaches that

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such dimensions are useful for immobilization of ligands. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case, the general conditions of the claim are disclosed in the prior art, and the range of length of the support is an optimum or workable range and thus discovering this range involves only routine skill in the art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A.L.



CHRISTOPHER L. CHIN  
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1/24/05